Application Number: 10/697,826 Amendment Dated October 23, 2006 Reply to Office Action of: August 23, 2006

Amendment filed: December 22, 2006

Amendments to the Claims:

Please cancel claims 72, 73 and 75-94 without prejudice.

Please amend claims 28, 31, 38, and 95 as follows.

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1.-26. (Cancelled)

(Previously Presented) A MOS transistor having elevated source and drain structures, 27.

comprising:

a gate dielectric layer on a substrate;

a gate electrode on the gate dielectric layer;

an epitaxial layer contacting side portions of the gate dielectric layer on the substrate and extending from the gate dielectric layer substantially parallel to the

substrate in a horizontal direction;

first source/drain regions in the epitaxial layer contacting the side portions of the

gate dielectric layer at lower side portions of the gate electrode; and

insulating sidewall spacers on the first source/drain regions in the epitaxial layer

at upper side portions of the gate electrode, bottom surfaces of the insulating sidewall

spacers extending from the upper side portions of the gate electrode substantially parallel

· to the substrate.

(Currently Amended) The transistor of claim 27, wherein the gate dielectric layer 28.

extends across a bottom portion and the lower side portions of the gate electrode[;].

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29. (Previously Presented) The transistor of claim 27, wherein the first source/drain regions

are formed by doping the epitaxial layer with impurities.

(Previously Presented) The transistor of claim 27, further comprising second 30.

source/drain regions adjacent the first source/drain regions opposite the gate electrode.

(Currently Amended) The transistor of claim 30, wherein the second source/drain 31

regions are formed by doping exposed surfaces with impurities using the gate electrode and the

insulating sidewall spacers as masks.

(Previously Presented) The transistor of claim 30, wherein the first source/drain regions 32.

comprise source/drain extension regions and wherein the second source/drain regions comprise

deep source/drain regions.

(Previously Presented) The transistor of claim 30, wherein depths of the first 33.

source/drain regions are less than depths of the second source/drain regions.

(Previously Presented) The transistor of claim 30, wherein the second source/drain 34.

regions extend into portions of the substrate.

(Previously Presented) The transistor of claim 29, wherein the first source/drain regions 35.

extend into portions of the substrate.

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36. (Previously Presented) The transistor of claim 27, wherein the substrate is formed using

one selected from the group consisting of silicon, silicon-on-insulator (SOI), SiGe, SiGe-on-

insulator(SGOI), strained silicon, strained silicon-on-insulator, and GaAs.

(Previously Presented) The transistor of claim 27, wherein the epitaxial layer comprises 37.

silicon or silicon germanium.

(Currently Amended) The transistor of claim 27, wherein the gate dielectric layer and the 38.

gate electrode extend into a trench formed in an upper portion of the substrate.

(Previously Presented) The transistor of claim 38, wherein the trench is of a depth that is 39.

less than about 50nm.

(Previously Presented) The transistor of claim 27, further comprising a channel region in 40.

the substrate under the gate electrode and adjacent the lower side portions of the gate electrode.

(Previously Presented) The transistor of claim 27, wherein the gate dielectric layer 41.

comprises a material selected from the group of materials consisting of silicon oxide, silicon

oxy-nitride (SiON), tantalum oxide, and a high-dielectric-constant material.

(Previously Presented) The transistor of claim 27, wherein the gate dielectric layer is 42.

formed using a deposition process or a thermal oxidation process.

(Previously Presented) The transistor of claim 27, wherein the gate electrode comprises a 43.

film selected from the group of materials consisting of a polysilicon film, a silicon geranium

film, a silicide film, a metal film, and a laminate film.

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(Previously Presented) The transistor of claim 27, further comprising a silicon oxide 44.

buffer layer between the gate electrode and the insulating sidewall spacers.

(Previously Presented) The transistor of claim 27, further comprising a silicide film on 45.

the first source/drain regions and the gate electrode.

(Previously Presented) The transistor of claim 45, wherein the silicide film comprises a 46.

material selected from the group consisting of Co, Ni, W, Ti and combinations thereof.

47.-94. (Cancelled)

(Currently Amended) The transistor of claim 27 wherein the first source/drain regions 95.

are formed before formation of the insulating sidewall spacers.

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